

Memorandum

To	Gregory Dewe, Fulton Hogan Land Development	From	David Hughes Sarah Lyne Will Herbert
Copy	Nick Roberts Cassandra Ng Rachel Morgan Mary Wong	Reference	511102
Date	2021-02-19	Pages (including this page)	10
Subject	Infrastructure Memo – Fulton Hogan Fast Track Referral Application		

1 Introduction

Fulton Hogan Land Development ("FHLD") propose to lodge an application for a referred project under the COVID-19 Recovery (Fast-track Consenting) Act 2020 (the "Act") to utilise the fast-track consenting process via an expert consenting panel. This application relates to the development of a contiguous landholding at 86 and 94 Fitzgerald Road, 251 and 383 Waihoehoe Road, 65, 76 and 108 Fielding Road ("the site"). This landholding forms part of a larger land area within Drury East that is currently subject to a private plan change process Drury East Private Plan Change ("PC49") to rezone the land from Future Urban to Business – Mixed Use Zone and Residential Zones under the Auckland Unitary Plan ("AUP") which will enable quality urban development and well-functioning urban environments. This proposal for a referred project will give effect to the purpose of the Act to promote employment and New Zealand's recovery to the economic and social impacts of Covid-19 through enabling the construction and delivery of a comprehensive development that offers employment opportunities and an accelerated supply of quality housing choice and diversity.

To support the application for a referred project, this memo provides a high-level review of the servicing aspects of the proposal, including:

- Summary of the proposal and site description;
- Summary of work completed to date;
- High level infrastructure servicing assessment for stormwater, wastewater, water supply and utility services;
- Overview of works required to achieve the proposal;

The stormwater management approach for the proposed development is covered in the Stormwater Memo – Fulton Hogan Fast Track Referral Application (Woods).

2 Site description and proposal

2.1 Site description

FHLD have entered into unconditional sale and purchase agreements for the land which the project will be located on. These agreements provide Fulton Hogan with full control of the sites for development. These sites are 86 and 94 Fitzgerald Road, 251 and 383 Waihoehoe Road, 65, 76 and 108 Fielding Road which is currently zoned Future Urban ("FUZ") under the AUP. The proposed development area is approximately 32.33 ha.

The development area is more or less bound by Waihoehoe Road to the north, Drury Hills Road to the east and Fitzgerald Road to the south and west. Fielding Road and Cossey Road cross the plan change area in the north-south direction (refer to Figure 1). The development area is indicated in blue, which is the subject of this application.

Currently the general area is used for agricultural and horticultural purposes as well as rural lifestyle blocks.



Figure 1: Aerial map of FHLD plan change area (red) with fast-track area overlaid (blue) (Auckland Council Geomaps, January 2021)

The general area currently has limited services and infrastructure. It is assumed that existing properties are largely serviced by private onsite wastewater and water tanks with telecommunications and above ground power distribution and sub-transmission within the road reserve. There is a designated gas transmission line that runs through the plan change area in a north-south orientation to the west of Fielding Road.

2.2 Proposal

FHLD are proposing the staged development of this land into 248 residential lots, 28 residential superlots and supporting roading and servicing infrastructure. Figure 2 shows the proposed development.

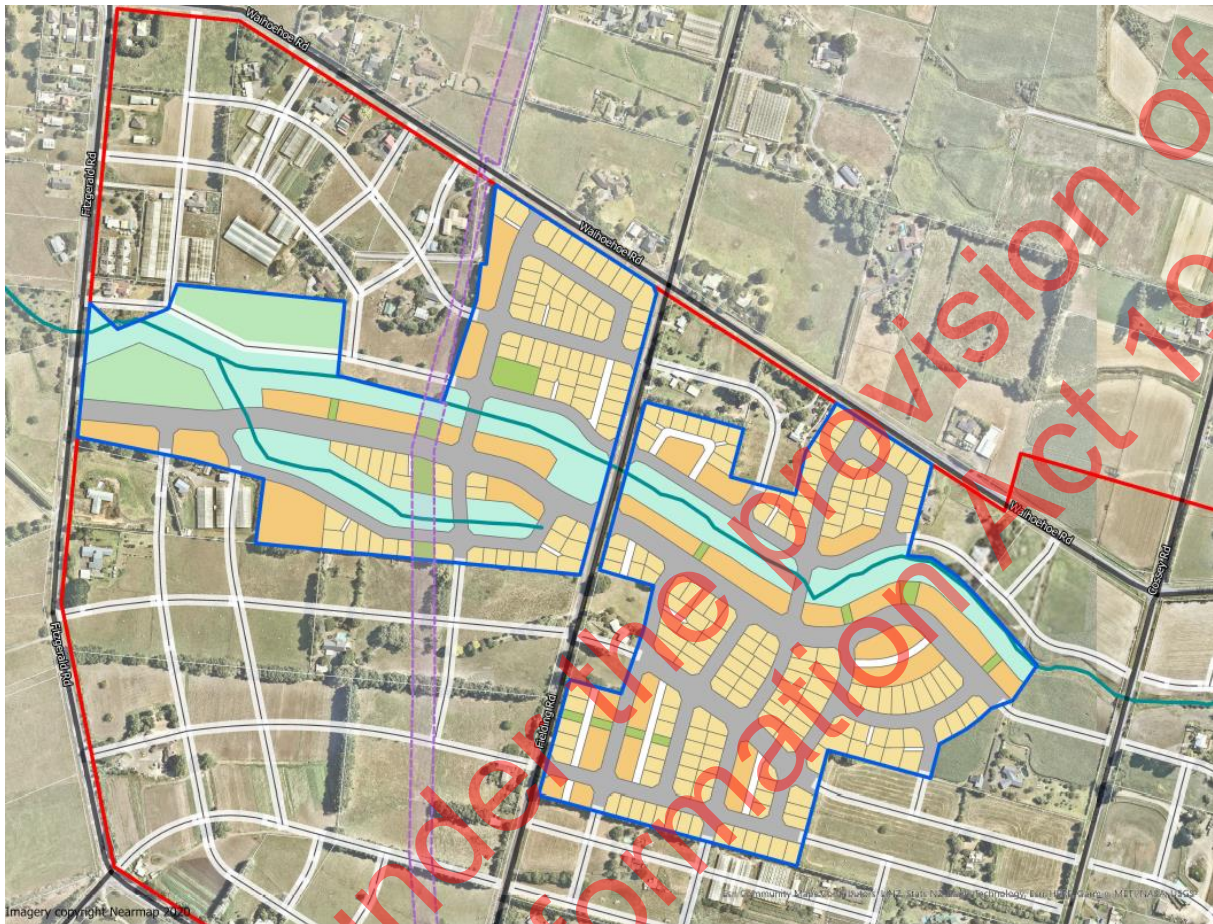


Figure 2: Preliminary Masterplan of proposed development (Stage 1)

3 The Masterplan

As there is minimal existing infrastructure and servicing to the existing properties in the development area, the masterplan can be developed without the need to suit and tie-in to typical infrastructure constraints.

Consideration is required within the layout for the existing gas transmission main with respect to future access and maintenance, the current masterplan allows for an accessible strip along the alignment be it reserve or carriageway. The existing streams within the development extent have also been considered and retained within the masterplan.

The remaining services will largely be provided at predetermined connection points with the reticulation networks designed in accordance with the development layout throughout the design process. Additional detail for each service is provided in Section 4.

4 Background Analysis

A review has been undertaken on background investigations available regarding existing servicing and infrastructure.

Investigations regarding the required civil engineering aspects for the project area have been undertaken.

4.1 Stormwater

This section relates to stormwater reticulation and conveyance. For information on hydrology and stormwater management including the onsite treatment and detention requirements and options, refer to Stormwater Memo – Fulton Hogan Fast Track Referral Application (Woods).

The project area does not currently have a reticulated stormwater system. It is assumed that runoff from existing properties is captured and reused or discharged directly to ground or the local stream network.

The project area sits within the Hingaia Stream catchment and the Fitzgerald Stream tributary flows centrally through the site before connecting to the main Hingaia Stream channel, refer to Figure 3.

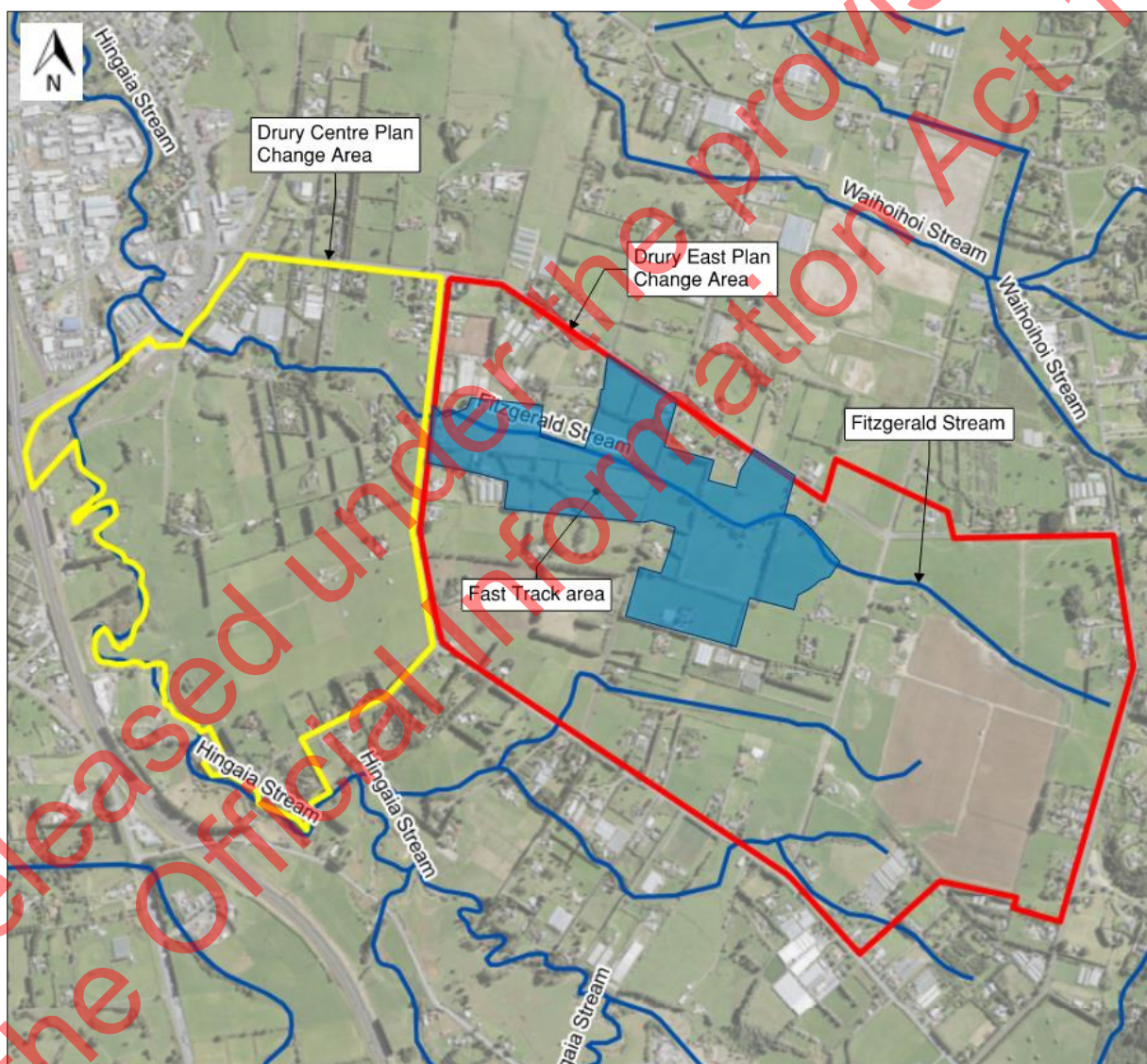


Figure 3: Fitzgerald Stream with respect to the Fast Track area (Tonkin+Taylor, Woods, 2020)

There are a number of existing culverts in the area. There are two culverts within or on the boundary of the project area and may require works to upgrade, replace or maintain as part of the long term site development, refer to Figure 4 for approximate culvert locations across the site.

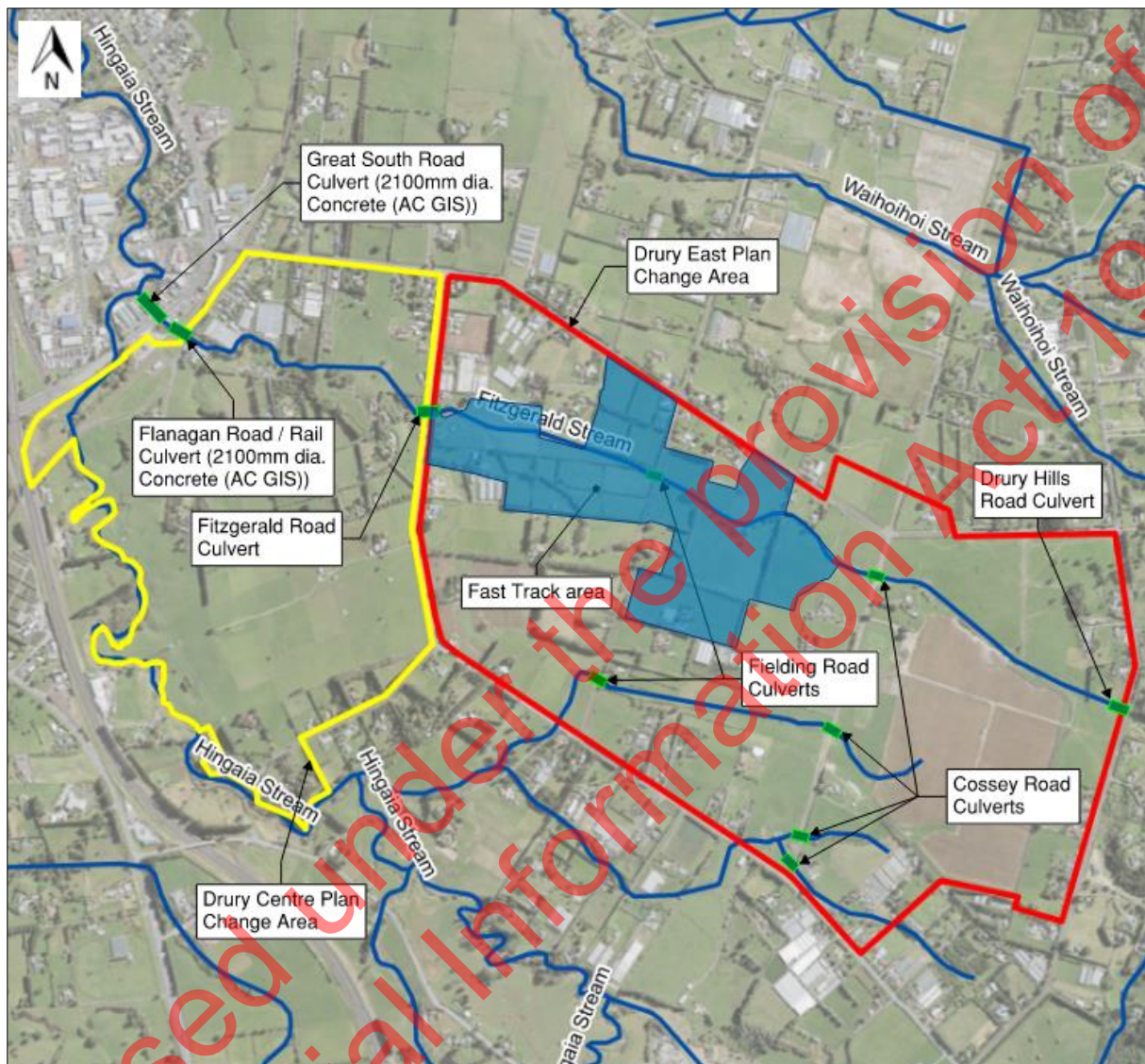


Figure 4: Existing culverts within the Drury Plan Change Areas (Tonkin+Taylor, Woods, 2020)

In terms of stormwater capture and conveyance for the project area, the site generally falls from east to west and toward Fitzgerald Stream. It is expected that a conventional pit and pipe system will be able to follow the road corridors and discharge to the stream, or an attenuation device (if required), at the downstream end of the site. It is noted that there may be a preference to have multiple outlets to the stream along the length to maintain a base flow and enhance the ecological environment. These outlets will be designed to provide detention and retention while protecting against erosion at the discharge point. Where there is spatial provision, open channel and other surface conveyance / treatment infrastructure may be utilised in preference to underground networks. In general, the stormwater systems will be designed in accordance with the Auckland Council Code of Practice for Land Development and Subdivision, Chapter 4.

Water quality treatment and erosion protection can be provided through use of green infrastructure combined with proprietary devices (if required) for ease of maintenance. Confirmation on the exact location and type of devices proposed for stormwater management will be confirmed following discussions with Auckland Council, Auckland Transport and iwi during the next stage of the design.

4.2 Wastewater

Watercare Services Limited (“WSL”) have confirmed that there is a new gravity pipe located along Fitzgerald Road that drains to a pump station on Flanagan Road, refer to Figure 5. This wastewater main has been confirmed by WSL to have sufficient capacity for the first stage of the development, which is the development as shown in the masterplan.

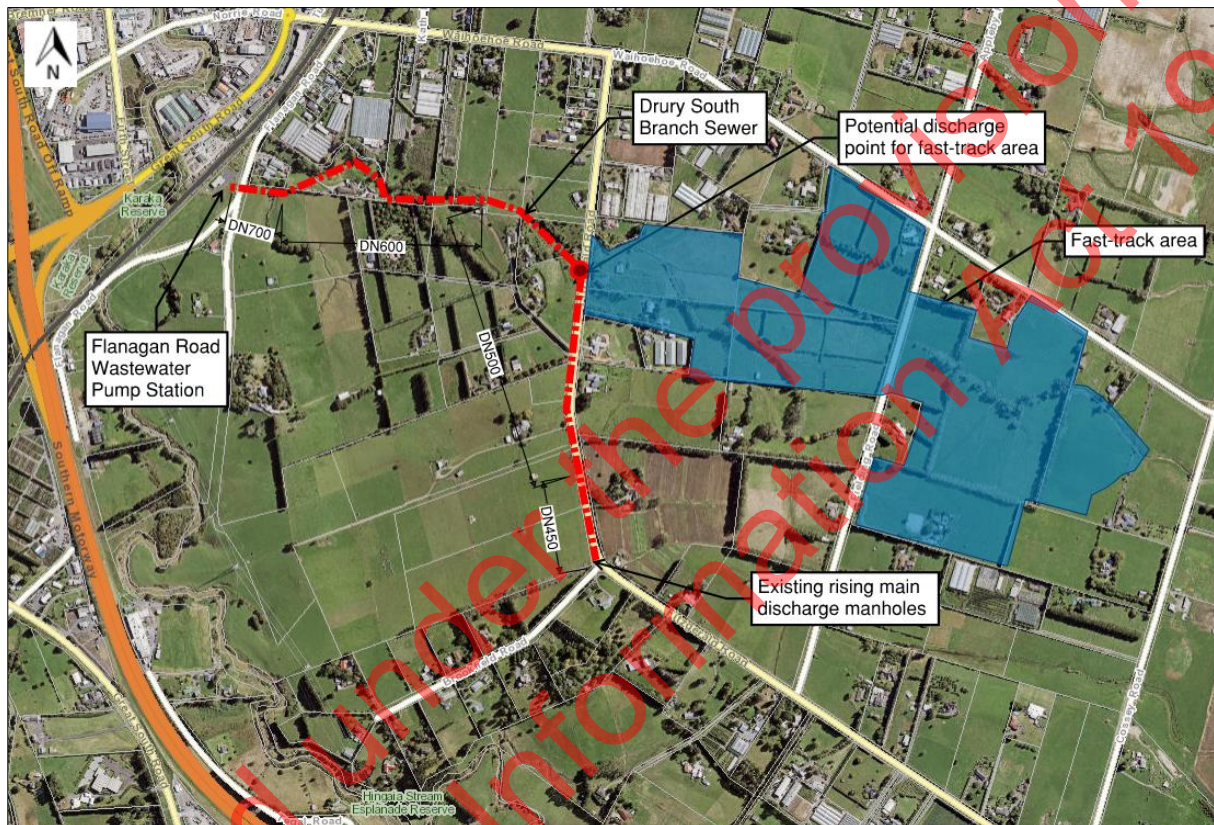


Figure 5: Drury South Branch Sewer approximate alignment (Auckland Council Geomaps, January 2021)

The proposed development will not exceed the current capacity of the pump station on Flanagan Road and therefore there is sufficient capacity in the current network to accommodate the project without any further upgrades.

4.3 Potable water

The project area is not currently connected to the reticulated potable water network. However, an existing 1200mm diameter water supply main from the Waikato River runs along the north-western side of Flanagan Road to a WSL major pump station, refer to Figure 6. A Bulk Water Supply Point (“BSP”) is available adjacent to the pump station.

There is a new watermain that runs along nearby Flanagan Road to connect to the BSP. This new watermain continues from Flanagan Road to Waihoehoe Road and Fitzgerald Road. According to WSL, the BSP has been sized to cater for the entire development within the plan change area (which the project is located within), and it is proposed that new watermains will feed from this to provide water supply to the development. The water supply reticulation will be progressively developed to a fully networked distribution system with ring mains and multiple interconnections ensuring resilience and redundancy. Overall, the project will be adequately serviced in terms of water supply.

Future water supply infrastructure will be in accordance with the requirements of the New Zealand Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008 (Water Supplies Code of Practice) to service the plan change area. It is proposed that water supplies, including for firefighting purposes are developed at the same time (or in advance of) land use so they are available in event of an emergency.

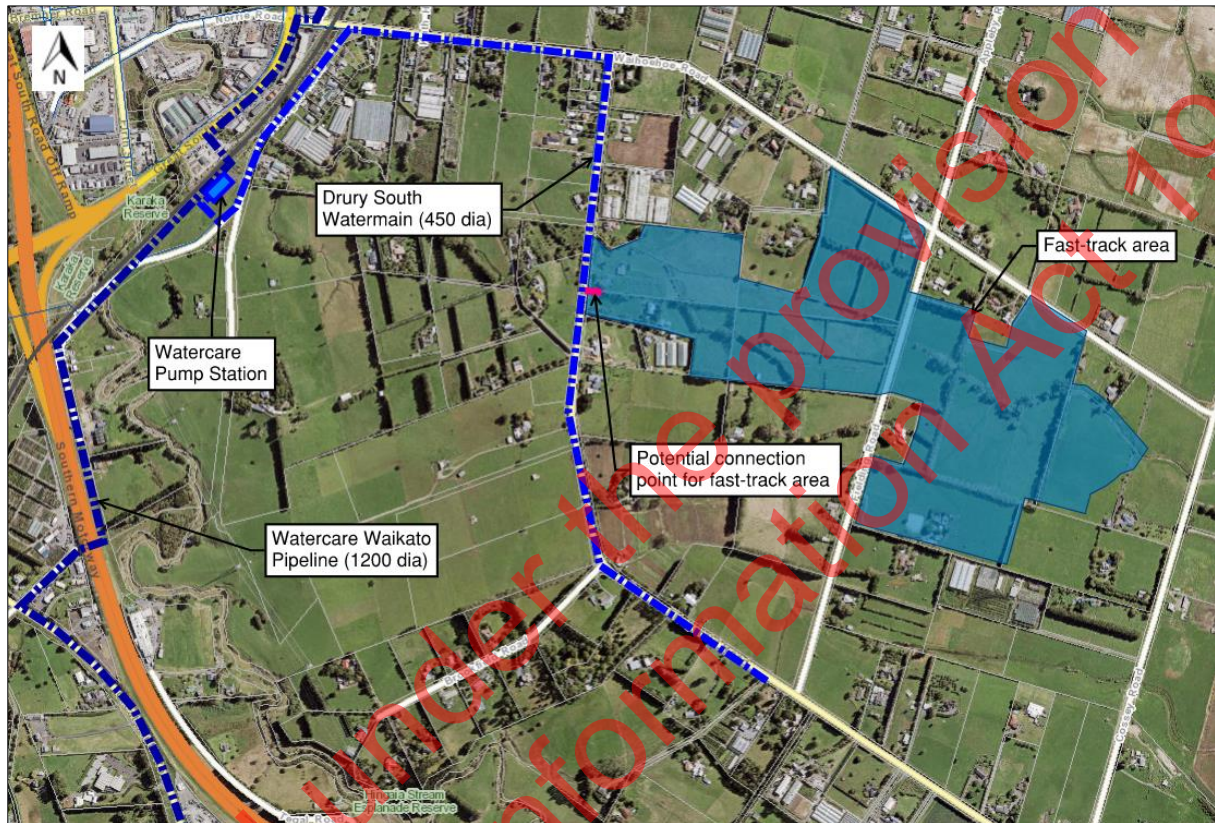


Figure 6: Existing Watercare Water Supply Network (Auckland Council Geomaps, January 2021).

4.4 Power

Existing power runs along overhead electricity lines along the four main roads; Fitzgerald Road, Waihoehoe Road, Cossey Road and Fielding Road. Based on consultation with Counties Power, it has been confirmed that there is capacity in the existing network to supply power to the entire development.

Counties Power has two points of supply from Transpower's National Grid, at Glenbrook and Bombay. Power is distributed via eight zone substations and an extensive network of lines, cables, transformers, and other equipment. The Drury area relies on its electricity from the Opaheke Substation which is supplied from the Transpower GXP at Bombay. The project area will be supplied from the 110kV sub-transmission line on the north side of Fitzgerald Road and west side of Fielding Road. Figure 7 shows the location of Counties Power assets. Both the Bombay-Opaheke (west) and Bombay-Opaheke (east) lines are within the plan change area, refer to Figure 7.

Should the proposal be accepted as a referred project, further consultation will be undertaken with Counties Power during the design phase in regard to expanding the electrical reticulation in the area, suitable areas for electrical infrastructure and work in the vicinity of existing overhead lines.

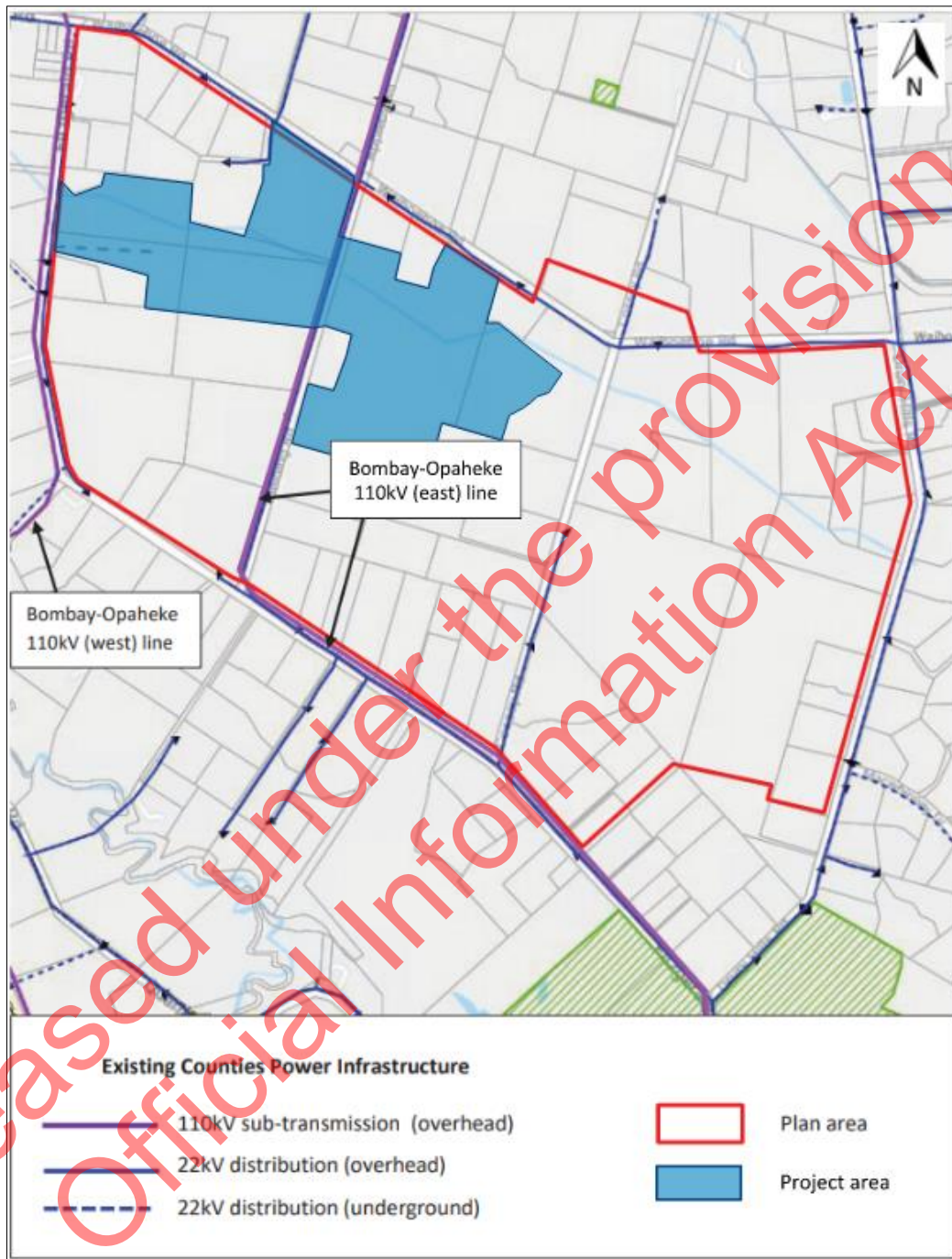


Figure 7: Counties Power Existing Electrical Infrastructure (Counties Power Submission for Plan Change, 2020)

4.5 Gas

An existing high-pressure gas transmission line of approximately 400mm in diameter is located between Waihoehoe Road and Fitzgerald Road, running more or less parallel to Fielding Road. Refer to Figure 8 for more information.

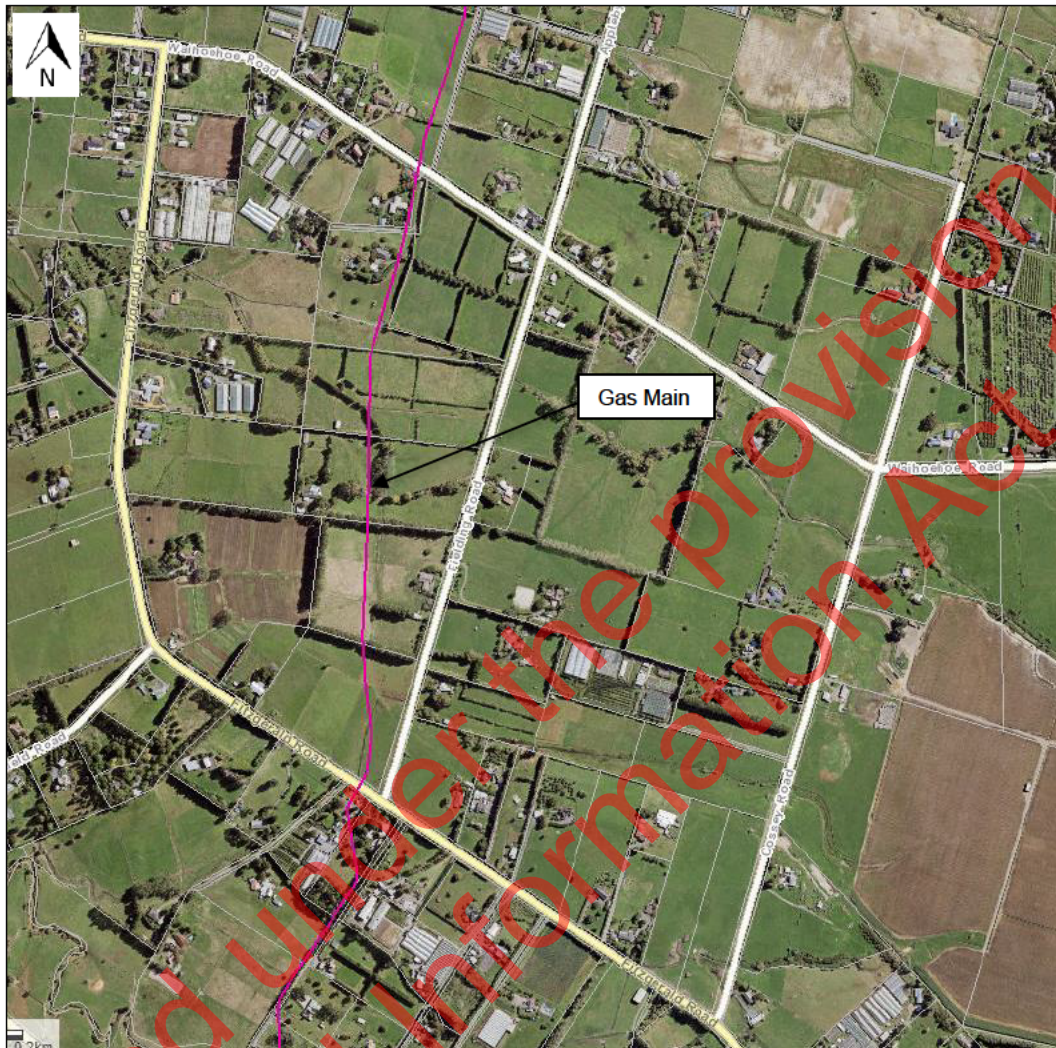


Figure 8: Existing Gas Main Location (Auckland Council Geomaps, January 2021)

It is proposed to retain and protect the gas main during works with clear space above allowed for in the masterplan for access. Should the proposal be accepted as a referred project, further consultation with the asset owner FirstGas will be undertaken as required.

There is currently piped underground gas reticulation within Fitzgerald and Waihoehoe Roads with a pressure level of MP4 (210-410 kPa). The gas main on Fitzgerald Road is 100mm ST and Waihoehoe Road has 100mm ST on the north side as well as a 160mm PE100 pipe on the south side. FirstGas has indicated they can provide gas to supply the development, should it be required.

4.6 Telecommunications

There are currently Chorus lines running along Fitzgerald Road, Waihoehoe Road, Cossey Road and Fielding Road. Initial discussions with Chorus have indicated that there are no fundamental constraints to upgrading telecommunication services to fully service the plan change area.

Ultimately, it is expected that the existing fibre network will be extended from the eastern end of Waihoehoe Road to the development area.

5 Assessment summary

With respect to the proposal and as assessed above, servicing requirements for the development are expected to be able to be delivered without any fundamental issues or constraints.

In summary, it is considered that adequate servicing for the project can be provided as detailed below:

- A wastewater network can be provided within the development that discharges to the new gravity sewer within Fitzgerald Road Future pumping upgrades will be required for the full development;
- Potable water can be sourced from the BSP in Flanagan Road which has capacity for the project area (plus any future development), WSL have proposed a new water main connection to service the site;
- The existing power networks through the site will have capacity for the project;
- The designated gas transmission line has been appropriately provided for in the masterplan. Supply can be provided to service potential future demand if required;
- Telecommunication services exist throughout the site and no issues are expected with the extension or upgrade of these to suit the proposal.

Liaison with relevant authorities and public utility companies will be required in order to confirm connections, expected demands and serviceability as per normal land development processes.

6 Conclusion

The project as presented on the masterplan will require new civil services infrastructure in order to cater for the new land use and associated demands. Based on the information reviewed to date, it is considered that provision of these services can be procured with connections to and extension of nearby existing infrastructure which have adequate capacity to accommodate the project.

The scope of required upgrades and new connections are commensurate with the scale of the proposed development. Further work will be required in the future planning and design stages to liaise with stakeholders and service providers to agree connection and capacity within their respective networks as per normal land development processes, however we do not expect fundamental issues in this respect.